B-Tronic EasyControl

EC5401B

en **Assembly and Operating Instructions**

Wall/hand-held transmitter, 1-channel, bidirectional

Important information for:

・Fitters /・Electricians /・Users

Please forward accordingly!

These instructions must be kept safe for future reference.

B-TRONIC KNX

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BECKER

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General

You can operate drives and control units with bidirectional KNX radio with this transmitter.
This device is exceptionally easy to use.
Please observe these Assembly and Operating Instructions when installing and setting up the equipment.

Explanation of pictograms

	CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in injury.
	ATTENTION	ATTENTION indicates measures that must be taken to avoid damage to property.
		Denotes user tips and other useful information.

Warranty

Structural modifications and incorrect installation which are not in accordance with these and our other instructions can result in serious injuries, e.g., crushing of limbs. Therefore, structural modifications may only be carried out with our prior approval and strictly in accordance with our instructions, particularly the information contained in these Assembly and Operating Instructions.
Any further processing of the products which does not comply with their intended use is not permitted.
The end product manufacturer and fitter have to ensure that all the relevant current statutory, official and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product manufacture, installation and customer advice.

Safety instructions

General information

- Please keep the instructions safe!
- Only use in dry rooms.
- Only use unmodified original parts from the control unit manufacturer.
- Keep children away from control units.
- Observe all pertinent country-specific regulations.
- Dispose of exhausted batteries properly. Only replace batteries with the identical type (see Technical data).

Caution

- **Keep people out of the system's range of travel.**
- **If the system is controlled by one or more transmitters, the system's range of travel must always be visible during operation.**
- **Device contains small parts that can be swallowed.**

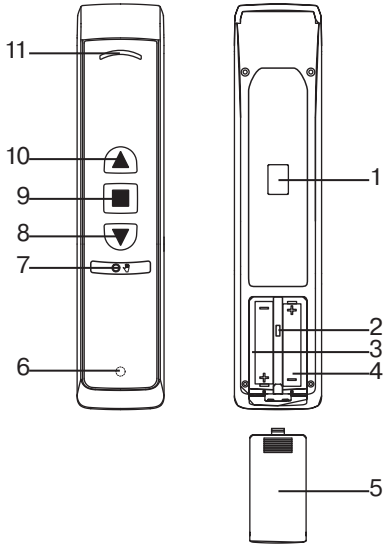
Intended use

The transmitter described in these instructions may only be used for operating suitable drives and control units with bidirectional KNX radio. You can operate either one group or a number of groups of devices with this transmitter.

- Please note that radio-controlled systems may not be used in areas with a high risk of interference (e.g. hospitals, airports).
- The remote control is intended solely for use with equipment and systems in which malfunctions in the transmitter or receiver would not pose any risk to persons, animals or property, or which contain safety devices to eliminate such risks.
- The operator is not protected from interference from other telecommunications systems and terminal equipment (e.g. even from radio-controlled systems which are properly operated in the same frequency range).
- Only connect radio receivers to devices and systems approved by the manufacturer.

- **Ensure that the control unit is not installed or operated close to metal surfaces or magnetic fields.**
- **Radio-controlled systems transmitting on the same frequency may cause reception interference.**
- **Note that the range of the radio signal is limited by legislation as well as by design.**

Explanation of displays and buttons



1 Wall bracket receptacle
2 Master button M
3 Type plate
4 Batteries
5 Battery compartment cover
6 Programming button ● (behind the logo)
7 Changeover switch
8 DOWN button ▼
9 STOP button ■
10 UP button ▲
11 Status LED

Normal/master mode

The transmitter can be operated in two modes:

- **Normal mode** (normal operation) The commands that are issued apply to **all** the receivers of a channel.
- **Master mode** (Setting mode for all B-Tronic products) The commands issued apply exclusively to **one** selected receiver of a channel.

The normal mode is factory set.

Activating master mode

Press the master button M until the changeover button flashes green once per second. This flashing will continue as long as you remain in master mode.
By pressing the master button again, the programmed drive is selected, or the programmed drives are selected in sequence.
The selected drive confirms by "clicking".
You can now make the various settings that are only available in master mode.
When all the desired settings have been made at this drive, you can press the master button again to select the next driver for programming.

Leaving master mode

There are two ways to leave master mode:

1. Press the changeover button.
2. Master mode is automatically closed once 2 minutes have gone by without a button being pushed

Programming the first transmitter

1) Programming transmitters

a) Putting the receiver into programming mode

Follow the Assembly and Operating Instructions for the receiver.

- Switch off the receiver power for 5 seconds, then switch it back on.

or

- Operate the programming button or the radio switch on the receiver.

The receiver is now in programming mode for 3 minutes.

b) Programming transmitters

Please make sure that only one receiver is in programming mode at any time. It is not possible to program/clear multiple receivers at the same time.

Press the transmitter's programming button while programming mode is active, until the receiver confirms successful programming. The status LED flashes yellow during the programming process.
The programming process is now complete.

	Lights up green / red	Action completed successfully (green) or not successfully (red).

2) Querying the current receiver mode

There are different receiver modes. The receiver mode must always be set appropriately for the receiver (e.g. roller shutter/venetian blind, dimmer/switch). Roller shutter/venetian blind is the factory setting.

		Briefly press the programming button as well as the changeover button for 1 second.
	Flashes yellow once	Receiver mode roller shutter

	Flashes yellow twice	Receiver mode dimmer
	Flashes yellow three times	Receiver mode switch
	Flashes yellow four times	Receiver mode venetian blind
	Flashes yellow five times	Receiver mode screen
	Flashes yellow six times	Receiver mode roof window

3) Changing to the desired receiver mode

The current receiver mode is first indicated through the display code.

		Briefly press the programming button as well as the changeover button for 5 seconds.
	Flashes yellow once	Receiver mode roller shutter
	Flashes yellow twice	Receiver mode dimmer
	Flashes yellow three times	Receiver mode switch

	Flashes yellow four times	Receiver mode venetian blind
	Flashes yellow five times	Receiver mode screen
	Flashes yellow six times	Receiver mode roof window

Repeat this procedure until the desired receiver mode has been selected.

Programming more transmitters

Programming more B-Tronic transmitters in the B-Tronic receiver

Ready the receiver for programming in one of the three possible ways.

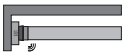
Please make sure that only one receiver is in programming mode at any time. It is not possible to program/clear multiple receivers at the same time.

Readying the B-Tronic receiver for programming with a programmed B-Tronic transmitter

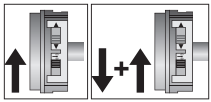
Put the transmitter into master mode.

Select the receiver by pressing the M button until the desired receiver confirms.

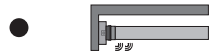
All the following settings will then only be executed for this device.

● 	Press the programming button of the programmed transmitter. ▷ The receiver makes a "click" sound to confirm. ► The receiver goes into the programming mode for 3 minutes

	Readying the B-Tronic receiver for programming by switching on the power Switch on the power. ► The receiver goes into the programming mode for 3 minutes

	**Readying the B-Tronic receiver for programming with the radio switch** Switch the radio switch to the inside position. If the radio switch is already in this position, switch it to the outside and back to the inside position. ► The tubular drive goes into the programming mode for 3 minutes
	Press the programming button for 3 seconds. The LED flashes green. ► The receiver goes into the programming mode for 3 minutes

When the receiver is in programming mode, proceed as follows:

	Now press the programming button of the new transmitter. ▷ The receiver makes a "click click" sound to confirm. ► The programming process is now complete.

	Lights up green / red	Action completed successfully (green) or not successfully (red).

Programming more B-Tronic transmitters in a KNX RF compatible receiver from another manufacturer

Please find the appropriate description on our website.

Programming more KNX RF compatible transmitters from another manufacturer in a B-Tronic receiver

Please find the appropriate description on our website.

Deleting transmitters

Deleting from B-Tronic receivers with two B-Tronic transmitters

Put a programmed transmitter, other than the one that is to be deleted, into master mode.

Select the device by pressing the M button until the desired device confirms.

All the following settings will then only be executed for this device.

		While the transmitter is in master mode, the symbols on the changeover button flash green once per second.
●	Changes from green to yellow	Now press the programming button, until the status LED changes from green to yellow, and the receiver confirms.
●	Flashes yellow	Press the programming button, until the status LED flashes yellow and the receiver confirms.
●		Now press the programming button **of the transmitter to be deleted** until the receiver confirms. ► The transmitter is now deleted from the receiver.

	Lights up green / red	Action completed successfully (green) or not successfully (red).

Deleting from B-Tronic receivers with one B-Tronic transmitter

The last or only transmitter in a receiver can be deleted using the following deletion sequence. To program new transmitters, the receiver must again be put into programming mode.

Put the transmitter into master mode.

Select the device by pressing the M button until the desired device confirms.

All the following settings will then only be executed for this device.

		While the transmitter is in master mode, the symbols on the changeover button flash green once per second.
●	Changes from green to yellow	Now press the programming button, until the status LED changes from green to yellow, and the receiver confirms.
●	Flashes yellow	Press the programming button, until the status LED flashes yellow and the receiver confirms.
		Now press the changeover button to leave master mode.
●		Now press the programming button until the receiver confirms. ► The transmitter is now deleted from the receiver.

	Lights up green / red	Action completed successfully (green) or not successfully (red).

Deleting a B-Tronic transmitter from a KNX RF compatible receiver from another manufacturer

Please find the appropriate description in the instructions for the receiver or on our website.

Setting the limit positions of B-Tronic tubular drives

Changing the direction of rotation

Check the direction of rotation before setting the limit positions. The shading solution must move in the correct direction when the UP or DOWN buttons are pressed.
If this is not the case, please carry out the following steps to change the direction of rotation:

No limit positions must be programmed. Delete the limit positions if necessary.	
Put the transmitter into master mode.	
Select the receiver by pressing the M button until the desired receiver confirms.	
● + ▲ + ▼	Press the programming button and, within the next 3 seconds, also press both the UP and DOWN buttons for 3 seconds. ▷ The tubular drive clicks 3 times to confirm. Check the running direction again.

Upper stop to lower stop

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.
All the following settings will then only be executed for this device.

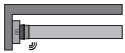
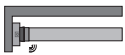
▲	Open to the permanent upper stop. ▹ The tubular drive switches off automatically.
▼	Then close to the permanent lower stop. ▹ The tubular drive switches off automatically. ► The limit positions are now set.

Upper point to lower point

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.
All the following settings will then only be executed for this device.

There is no shading solution length adjustment with this limit position setting.

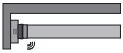
▲	Open to the desired upper limit position.
● + ▲ 	Press the programming button and, within 1 second, also press the UP button and hold the two buttons down. ▹ The tubular drive makes a "click" sound to confirm.
▼	Then close to the desired lower limit position.
● + ▼ 	Press the programming button and, within 1 second, also press the DOWN button and hold the two buttons down. ▹ The tubular drive makes a "click" sound to confirm. ► The limit positions are now set.

Upper stop to lower point

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.

All the following settings will then only be executed for this device.

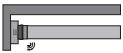
▲	Open to the permanent upper stop. ▷ The tubular drive switches off automatically.
▼	Then close to the desired lower limit position.
● + ▼ 	Press the programming button and, within 1 second, also press the DOWN button and hold the two buttons down. ▷ The tubular drive makes a "click" sound to confirm. ► The limit positions are now set.

Upper point to lower stop

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.

All the following settings will then only be executed for this device.

▲	Open to the desired upper limit position.
● + ▲ 	Press the programming button and, within 1 second, also press the UP button and hold the two buttons down. ▷ The tubular drive makes a “click” sound to confirm.
▼	Then close to the permanent lower stop. ▷ The tubular drive switches off automatically. ► The limit positions are now set.

Deleting the limit positions of B-Tronic tubular drives

Attention
When one or both of the limit positions are deleted, all the other set functions (e.g. intermediate position) are deleted as well.

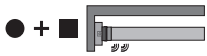
Once set, the limit positions can only be deleted using master mode. Deleted limit positions are displayed on the limit position status indicator.

Deleting individual limit positions

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.

All the following settings will then only be executed for this device.

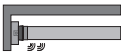
▲ / ▼	Open/close to the limit position to be deleted.
	Press the programming button and, within the next 1 second, press the STOP button at the same time and hold the two buttons down for 5 seconds. ▹ The tubular drive makes a "click-click" sound to confirm. ► The limit position is now deleted.

Deleting both limit positions

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.

All the following settings will then only be executed for this device.

▲ / ▼	Open/close the shading solution to a point between the limit positions.
● + ■ 	Press the programming button and, within the next 1 second, press the STOP button at the same time and hold the two buttons down for 5 seconds. ▷ The tubular drive makes a "click-click" sound to confirm. ► The limit positions are now deleted.

Intermediate positions I + II

The intermediate positions I + II are freely selectable positions for the shading solution between the two limit positions. Each travel button can be assigned one intermediate position. Both limit positions must be set before an intermediate position is set.
When both or individual limit positions are deleted, both intermediate positions are deleted as well.

Setting the desired intermediate position

▲ / ▼	Open/close the shading solution to the desired intermediate position.

■+▲/■+▼	Press the STOP button and, within 3 seconds, also press the desired travel button and hold the two buttons down. ▹ The tubular drive makes a "click" sound to confirm. ► The intermediate position is now saved.

Travelling to the desired intermediate position

2x▲ / 2x▼	Press the travel button for the desired intermediate position twice within one second. ► The shading solution runs to the intermediate position assigned to the travel button.

	Lights up green / red	Action successful with all receivers (green) or not successful with at least one receiver (red).

Deleting the desired intermediate position

2x▲ / 2x▼	Press the travel button for the desired intermediate position twice within one second. ▹ The shading solution runs to the intermediate position assigned to the travel button.
■+▲/■+▼	Press the STOP button and, within 3 seconds, also press the travel button assigned to the intermediate position and hold the two buttons down. ▹ The tubular drive makes a "click-click" sound to confirm. ► The intermediate position is now deleted.

Memory function

Every B-Tronic radio receiver for roller shutter and blind installations can save switching times for UP and DOWN movement.
In the "O" operating mode, this movement is repeated every 24 hours.
It does not matter what position the ✋/O changeover button is in when programming the switching time. Previously stored switching times are overwritten.

	Lights up green	Roller shutter / all roller shutters are in automatic mode
	Lights up green	Roller shutter / all roller shutters are in manual mode
	Light up green	Roller shutters are in different modes

Switching from the "O" operating mode to the "✋" operating mode must take place via the device on which the automatic command was programmed. If automatic commands have been programmed by several devices independently, they have to be changed to "✋" separately.

Programming the run times

1. The tubular drive must be in the upper limit position to program the DOWN run time, and must be in the lower limit position for the UP run time.
2. Wait for the time you wish the automatic drive command to be executed.
3. At the desired time, press and hold the relevant direction button until the tubular drive briefly stops after approx. 6 seconds and then continues to the limit position.
4. Release the direction button.

The tubular drive has saved the current time for this direction of travel.
Proceed in exactly the same way with the other direction of movement.

Deleting the run times

When deleting, both run times are always deleted.

To delete the UP and DOWN run time, press the STOP button for 10 seconds.
The tubular drive makes a "click click" sound to confirm.
The run times are now deleted.

Upper anti-freeze mechanism

The upper anti-freeze mechanism (if present in the receiver) helps to prevent the roller shutter from freezing in the upper limit position, as the roller shutter stops just before the upper stop. The distance from the upper stop is automatically cyclically checked and, if necessary, corrected.
The upper anti-freeze mechanism is deactivated on delivery.
Both limit positions must be set before the anti-freeze mechanism can be activated.

The anti-freeze mechanism only works if a permanent stop is set at the upper limit position of the roller shutter. The anti-freeze mechanism is not visible until the shading solution has reached the upper stop from the lower limit position 3 times in succession.
When both or individual limit positions are deleted, this set function is deleted as well.

Activating/Deactivating upper anti-freeze mechanism

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.
All the following settings will then only be executed for this device.

▲	Open the shading solution to the upper limit position.
● + ■ + ▲	Then re-press the programming button and also the STOP and UP buttons for approx. 5 seconds. ► The tubular drive clicks 3 times to confirm.

Fly screen protection function

If the fly screen protection function is activated (if available in the receiver), obstacle detection is activated after a revolution of the barrel of approx. 140° from the upper limit position. If the roller shutter curtain meets an opened fly screen door, the drive stops and returns to the upper limit position.
The fly screen protection function is deactivated on delivery.
Both limit positions must be set before the fly screen protection function can be activated.

When both or individual limit positions are deleted, this set function is deleted as well.

Activating/deactivating the fly screen protection function

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.
All the following settings will then only be executed for this device.

▲	Open the shading solution to the upper limit position.

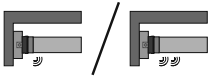
	Then re-press the programming button and also the STOP and UP buttons for approx. 5 seconds. ► The tubular drive clicks 3 times to confirm.

Activating/deactivating repeater mode

Put the transmitter into master mode.

Select the tubular drive by pressing the M button until the tubular drive confirms.

All the following settings will then only be executed for this device.

		Press the programming button, then the changeover button, and hold them down. The current repeater mode will be displayed. Continue to hold the buttons down for 5 seconds to change over.
		The tubular drive makes a "click" sound to confirm activation and a "click-click" sound for deactivation.
	1x	Repeater mode activated
	2x	Repeater mode deactivated

Reset the transmitter to the factory setting

Attention
If the transmitter is reset to factory settings, master mode will no longer give you access to the tubular drive or drives in which the transmitter has been programmed. Please only make this setting when the batteries are new.

Open the cover of the battery compartment.
Take out the batteries.
Then reinsert the batteries in the correct orientation, and then within one second press the master button M for at least five seconds, until the transmitter confirms. The status LED flashes yellow while the command is being executed.

	Lights up green / red	Action completed successfully (green) or not successfully (red).

If the master button M is released while the status LED is flashing yellow, the procedure is cancelled.

Clean-up function for B-Tronic products

All receivers that are programmed and no longer present can be cleared with the clean-up function.

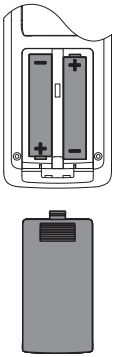
The clean-up function is always applied to the selected channel. The switching commands sequence must be carried out in quick succession. B-Tronic products that were temporarily unreachable during the process should be reprogrammed.

	Select the desired channel.
	Put the transmitter into master mode.
● 1 second	Press the programming button for 1 second.
● 1 second	Press the programming button again for 1 second.
● 6 seconds	Press the programming button again for 6 seconds.
	The LED flashes yellow quickly for about 3 seconds, then changes to green.
	Now press the changeover button to leave master mode.

Changing batteries

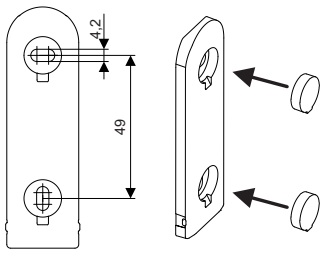
You will find the appropriate battery type in the "Technical data" chapter.

	Flashes yellow	If the status LED gives slow yellow flashes while the button is being pressed, the batteries are almost empty, and must be exchanged as soon as possible. If the status LED no longer lights up when a button is pressed, the batteries are empty.

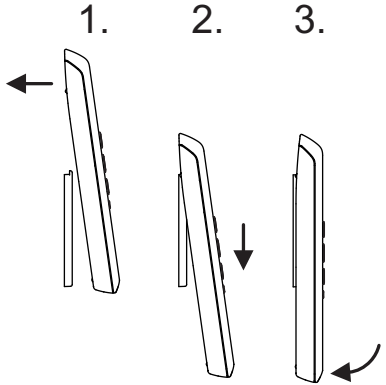


1. Open the cover of the battery compartment.
2. Take out the batteries.
3. Insert the new batteries correctly.
4. Close the cover of the battery compartment.

Wall bracket



1. Check that the transmitter and receiver are working properly before mounting in the desired position.
2. Fasten the bracket to the wall using the two enclosed screws.
3. Now push the screw covers into the screw holes.



Cleaning

Only clean the device with a suitable cloth. Do not use aggressive cleaning agents that may damage the surface.

Technical data

Rated Voltage	3 V DC
Battery type	LR 03 (AAA)
Degree of protection	IP 20
Permissible ambient temperature	-10 to +55 °C
Radio frequency	868.3 MHz
Max. number of receivers	32

The maximum radio range on and in the building is 25 m and in the open 350 m.

What to do if…?

Problem	Remedy
Receiver is not responding. Receiver is not reacting to the master button.	Insert new batteries.
	Insert batteries correctly.
	Reduce the distance to the receiver.
	Program transmitter.
	Check the receiver.
Status LED flashes yellow .	Insert new batteries.
Tubular drive does not run in a 24-hour rhythm.	Switch to O.
	Program switching times.
Run times deviate from those programmed.	Power failure at the tubular drive. Re-program switching times.

Problem	Remedy
Status LED flashes red for three seconds after operating one of the ▲, ■, or ▼ buttons.	Check the path for an obstacle.
Status LED lights up red for three seconds after operating one of the ▲, ■, or ▼ buttons.	Reduce the distance to the receiver.
	Check the batteries
	Check the power supply at the receiver.

General Declaration of Conformity

Becker-Antriebe GmbH declares that the B-Tronic EasyControl EC5401B device complies with the fundamental requirements and other relevant guidelines of Directive R&TTE 1999/5/EC.
Intended for use in the following countries: EU, CH, NO, IS, LI

Subject to technical changes without notice.

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